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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,875	02/05/2004	Kenneth Wayne Boyd	TUC920030111US1	5550

45216 7590 10/10/2006

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EXAMINER

BATAILLE, PIERRE MICHE

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/772,875	BOYD ET AL.	
	Examiner	Art Unit	
	Pierre-Michel Bataille	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/05/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The present Office Action is taken in conjunction to examination of the instant application having effective filing date of 05 February 2004. The Information Disclosure Statement (IDS) submitted 05 February 2004 has been considered.
2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,546,536 (Davis et al).

With respect to claims 1, 8, 13, 16, and 18, Davis discloses system and method for shared data mirroring, comprising: a network comprising at least one host (***host processors 9a-9c***) and a plurality of storage devices (***storage subsystems 17a-17b***); at least one backup component; a data mirror comprising at least one primary volume and at least one secondary volume (***each storage subsystem include one or more disks forming shadow set of storage media accessible by one or more data***

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sources); and a processing node on the network, the processing node configured to record block address information (**each storage subsystem including controller configured to carry out management information relating to request commands**)[Col. 4, Lines 42-55], the processing node comprising: a response module configured to receive a tracking command and respond with status (**each storage subsystem including controller configured to receive command and to provide status in response commands**) [Col. 4, Lines 16-28]; an extraction module configured to extract block address information from the tracking command (**each command having associated information that uniquely identify the command and unit number that identifies the disk from which data is to be read or to which data is to be written**)[Fig. 2A, 2B; Col. 3, Line 57 to Col. 4, Line 7]; and a log module configured to record the block address information on a tracking log and transfer log and transfer the block address information to a location on the network tracking log (**a write history log that identifies information in the write history entry indicating the data blocks to which data has been written**) [Fig. 2A, 2B; Col. 4, Lines 43-55; Col. 6, Lines 46-67].

With respect to claims 2, 9, and 19, Davis discloses the system and method wherein the tracking log comprises at least one bitmap [Fig. 2A & 2B; Fig. 5A & 5B; Col. 2, Lines 24-32].

With respect to claims 3, Davis discloses the system and method wherein the block address information further comprises metadata [Fig. 2A & 2B; Fig. 5A & 5B; Col. 2, Lines 24-32].

With respect to claims 4, 11, Davis discloses the system and method wherein the block address information further comprises time and date information [the information being set over a period of time Col. 2, lines 29-32].

With respect to claims 5, 10, 12, 14-15, and 21, Davis discloses the system and method wherein the log module is further configured to read a tracking log and tracking log information in both first and second storage subsystems [Col. 4, Lines 32-41; Fig. 2A & 2B; Fig. 5A & 5B].

With respect to claims 6, Davis discloses the system and method wherein the log module is further configured to transfer information from the tracking log to the network [Fig. 2A & 2B; Fig. 5A & 5B; Col. 2, Lines 24-32].

With respect to claims 7, Davis discloses the system and method wherein the processing node further comprises a restoration module configured to read memory blocks identified by information within the tracking log [Col. 8, Lines 3-14].

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,684,294 (Huffman) teaches disk driver including access log for recording recent transactions with associated hard disk drive.

US 6,128,699 (Golding) teaches storage system for storing and retrieving data records having a plurality of storage devices and a system controller.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Michel Bataille whose telephone number is (571) 272-4178. The examiner can normally be reached on Mon-Fri (8:00A to 4:30P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Pierre-Michel Bataille
Primary Examiner
Art Unit 2186

September 26, 2006

PIERRE BATAILLE
PRIMARY EXAMINER